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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/160,991	09/25/1998	TZYH-CHYANG CHERNG		6990

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EXAMINER

PAYER, HWEI SIU CHOU

ART UNIT	PAPER NUMBER
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3724

DATE MAILED: 06/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/160,991

Applicant(s)

CHERNG ET AL.

Examiner

Hwei-Siu C. Payer

Art Unit

3724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-16,25,26,30,31 and 38-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-16,25,26,30,31 and 38-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 1998 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

The amendment filed on March 2, 2006 has been entered.

Claims Objection

Claims 10-11, 39-41 and 45 are objected to because of the following informalities:

- (1) In claim 10, line 7, "pattern" should read --path--.
- (2) In claim 39, line 2, "blade material" should read --said blade material--.
- (3) In claim 45, lines 1-2, "said laser" should read --said laser beam--.

Claims Rejection - 35 U.S.C. 103(a)

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2-7, 10, 12, 13, 14, 16, 30, 31 and 38-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker (U.S. Patent No. 3,952,179) in view of Maybon (U.S. Patent No. 5,580,472).

Baker discloses a method for manufacturing a cutting die (see Abstract), the cutting die including a cylindrical die body (10) and a cutting blade (14/22/23, see

Figs.6-8) formed in a pattern (24/25, see column 4, lines 65-67) and integral with the die body (10) and extending outwardly from the die body (10).

Baker's cutting die is formed by depositing a blade material (12) having a hardness greater than that of the die body material (10) by use of a heat source, then continuing the depositing step along the entirety of the path, and finally machining (see Figs.4-8) the side surfaces of the deposited blade material (12) by electrical discharge machining (EDM, see column 1, lines 61-65 and column 3, lines 50-61), milling or grinding (see column 1, lines 61-65 and column 3, lines 50-61) to form the cutting blade (14/22/23) substantially as claimed.

The mere differences between Baker and the claimed invention reside in the form of the blade material and the type of the heat source for depositing the blade material onto the die body.

Maybon teaches the use of a laser beam (28) as a heat source for cladding. Specifically, Maybon teaches cladding a hard material onto a steel substrate (8) by heating and melting (or puddling) an area (32) of the steel substrate (8) with a laser beam (28) and applying a cladding powder (comprising tungsten carbide, see column 4, lines 55-60) onto the heated area (see column 6, lines 16-18) while heating the area (32) to form a layer of deposit that is compositionally different and of greater hardness than the steel substrate (8). The cladding can be done with one single pass of the laser beam or a number of successive passes depending upon the thickness of the deposit

desired (see column 6, lines 31-37). The cladding powder is fed through a feeder that is coaxial with a beam of the laser (see column 5, lines 63-65).

Therefore, it would have been obvious to one skilled in the art to modify Baker by using a well known heat source such as Maybon's laser beam for cladding a hard material of a powder form onto the substrate (10) for the advantage of a very fine microstructure and homogeneity of the clad layer as taught by Maybon.

With respect to claims 10 and 12, the claimed range for the hardness of the die body and of the carbide-containing blade material and the percentage of the tungsten carbide in the cladding powder are not patentably distinct over Baker as modified, since the blade material and the die body material selected depend more upon the blade performance criteria and the die body parameters (as evidenced by Applicant's specification on page 15 thereof) than on any inventive concept.

With respect to claim 41, Baker's machined blade material (see Fig.6, 7 or 8) is deemed to be "approximate" a trapezoid with a tip thereon or it would have been obvious to one skilled in the art to have any shape of the blade material to suite one's particular cutting needs. Further, it has been held that change in shape is an obvious matter of engineering design choice and not patentably advanced. In re Dailey, 149 USPQ 47, CCPA 1966.

3. Claims 8, 9, 11, 15, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker (U.S. Patent No. 3,952,179) and Maybon (U.S. Patent No.

5,580,472) as applied to claims 10, 13, 38 and 43 above, and further in view of Cox et al. (U.S. Patent No. 5,417,132).

Baker as modified above shows the claimed method steps of forming a cutting die except it lacks the step of heat treating the blade.

Cox et al. teach heat treating blades by use of a laser beam (see Abstract) after machining the cutting blades.

It would have been obvious to one skilled in the art to further modify Baker by providing a heat treating step after the blade is machined to harden and prolong the life of the blade as taught by Cox et al.

Remarks

It is noted claims 13-16 of this instant application as now amended are substantially copied from U.S. Patent No. 5,855,149 with further limitation of "puddle". These claims before amended were appealed on 12-9-2002 before the Board of Patent Appeals and Interferences. A decision on appeal by the Board affirmed the examiner's rejecting of claims 13-16. Claims 13, 14 and 16 were rejected under 35 U.S.C. 103(a) as being unpatentable over Baker (U.S. Patent No. 3,952,179) in view of Maybon (U.S. Patent No. 5,580,472), and claim 15 was rejected under 35 U.S.C. 103(a) as being unpatentable over Baker (U.S. Patent No. 3,952,179) in view of Maybon (U.S. Patent No. 5,580,472) and Cox et al. (U.S. Patent No. 5,417,132).

Applicant argues, at page 12 of the amendment, Examiner has not addressed the recitations of forming a puddle of melted die body material and applying the powdered blade material to the puddle of claims 3, 4, 10, 11 and 30 by their dependency from claim 38 and thus has not made a prima facie demonstration of obviousness of any of these claims. Examiner disagrees. From a close reading of the specification (specifically at page 11 of the specification), it describes the laser beam 10 scanning along the die surface 13A so as to **melt or "puddle"** an area 17 in the surface 13A. Since Maybon's laser beam also **melts** an area in the surface of the substrate (see column 7, lines 47-49), it is by applicant's own definition **"puddle"** also.

Action Made Final

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Point of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hwei-Siu C. Payer whose telephone number is 571-272-4511. The examiner can normally be reached on Monday through Friday, 7:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on 571-272-4502. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for official communications and 571-273-4511 for proposed amendments.

H Payer
May 26, 2006

Hwei-Siu Payer

Hwei-Siu Payer
Primary Examiner